# Always Improving: Turning Test Responses into Learning Opportunities

**John S. Parke**

*By using summative assessment scores and authentic student work samples, teachers can transform test grades into further opportunities for student growth. This practice allows students to continue to hone their mathematical skills, even after the test is finished. The procedures described include the incorporation of technology and "math talk" to transform everyday classroom tests into unique learning opportunities. Through the responses of their peers, students gain a clearer understanding of how to successfully respond to written response questions.*

## Introduction

Three years ago, after teaching Language Arts and Social Studies for eight years, I made the decision to teach math and science. It was a refreshing change, and I enjoyed the new challenge. Unlike Language Arts, a subject that allows students to offer several legitimate responses all phrased differently, math seemed much more cut and dry. The answers weren't shades of gray, but black and white, right and wrong.

Or so I thought.

We were cruising through the school year, and I felt proud of my students' performance. The students were doing well, their grades were up, and I wondered why I hadn't taught math earlier in my career.

Then I graded my first batch of written response tests which fell far short of my expectations.

Knowing that I couldn't go back and re-teach the whole chapter and afraid to admit my students had not, in fact, mastered the concepts that I had so confidently taught them, I felt panicked. If I moved on to the next chapter and never addressed the glaring gaps in my students' understanding, when would my students get the chance to improve? Next year? Never? When?

And were my students' errors due to a misunderstanding of math concepts or because they had trouble responding in a short answer/extended response format?

I'm a firm believer that the way you did it last time is the way you'll do it next time. But that meant that many of my students would keep solving problems and composing their answers the wrong way unless I intervened.

That's when I decided to use assessment results as another opportunity for teaching and learning.

As math teachers, we understand averages and percentages. We also know that in reality there simply isn't enough time to personally address each student's individual errors on every assessment. But if I could find a way to help the whole class at once by addressing the most common mistakes, I could get the most bang for my buck, and I could move forward knowing that I did more than simply accept poor assessment responses.

I then began a routine that I have continued after every written-response assessment that I have administered over the last three years.

I decided that the most powerful tool at my disposal was my Promethean board, the interactive whiteboard that acts as a five-foot touchscreen computer display in my classroom. After identifying the five most

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commonly missed questions, I selected the best student responses. Using a scanner, I created digital copies of these exemplary responses. I also disguised examples of poorly constructed responses in my own handwriting and scanned those as well.

Before returning the assessments to my students, I told them they were about to play a game called "What Went Wrong?" Then I showed the students one of the poorly-constructed answers. I explained that the response was disguised in my handwriting to spare the feelings of students who responded in a similar way.

*Before returning the assessments to my students, I told them they were about to play a game called "What Went Wrong?"*

First, the students read the question and the response and tried to independently determine why the response had not received full credit. Second, the students turned to their neighbors to share their thoughts. Third, we reached a consensus as a class.

After determining what went wrong, students viewed a perfect response written by one of their classmates. Their reactions varied greatly. Some students were relieved that their own responses were similar to those receiving full credit. Other students were amazed that their peers had crafted such clear, thorough responses. Still other students audibly expressed an "ah-ha" moment as they finally realized the correct way to respond to the question that had been asked.

These steps were repeated for all five commonly missed questions, and in a matter of 10-15 minutes students had learned how to correct their responses before they even received their own test results.

This post-assessment activity

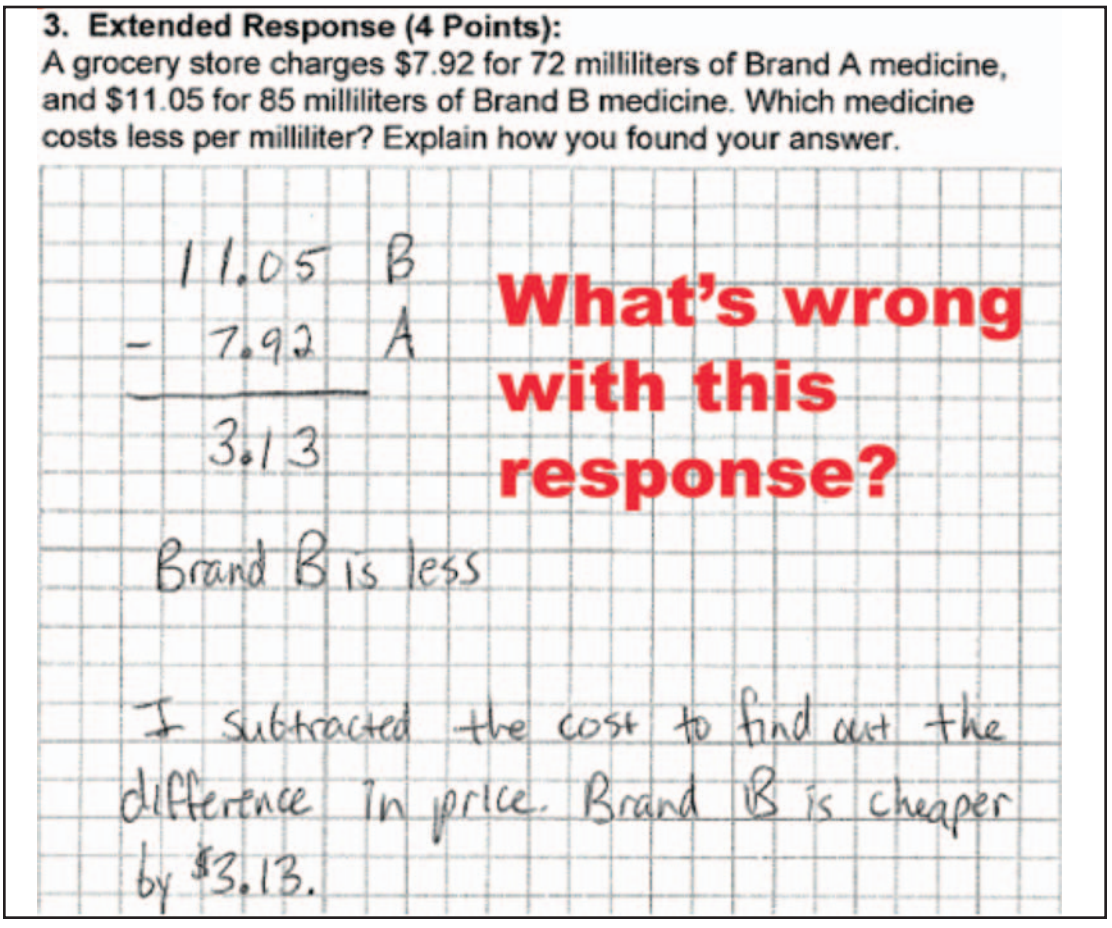


**Fig 1** Incorrect student response

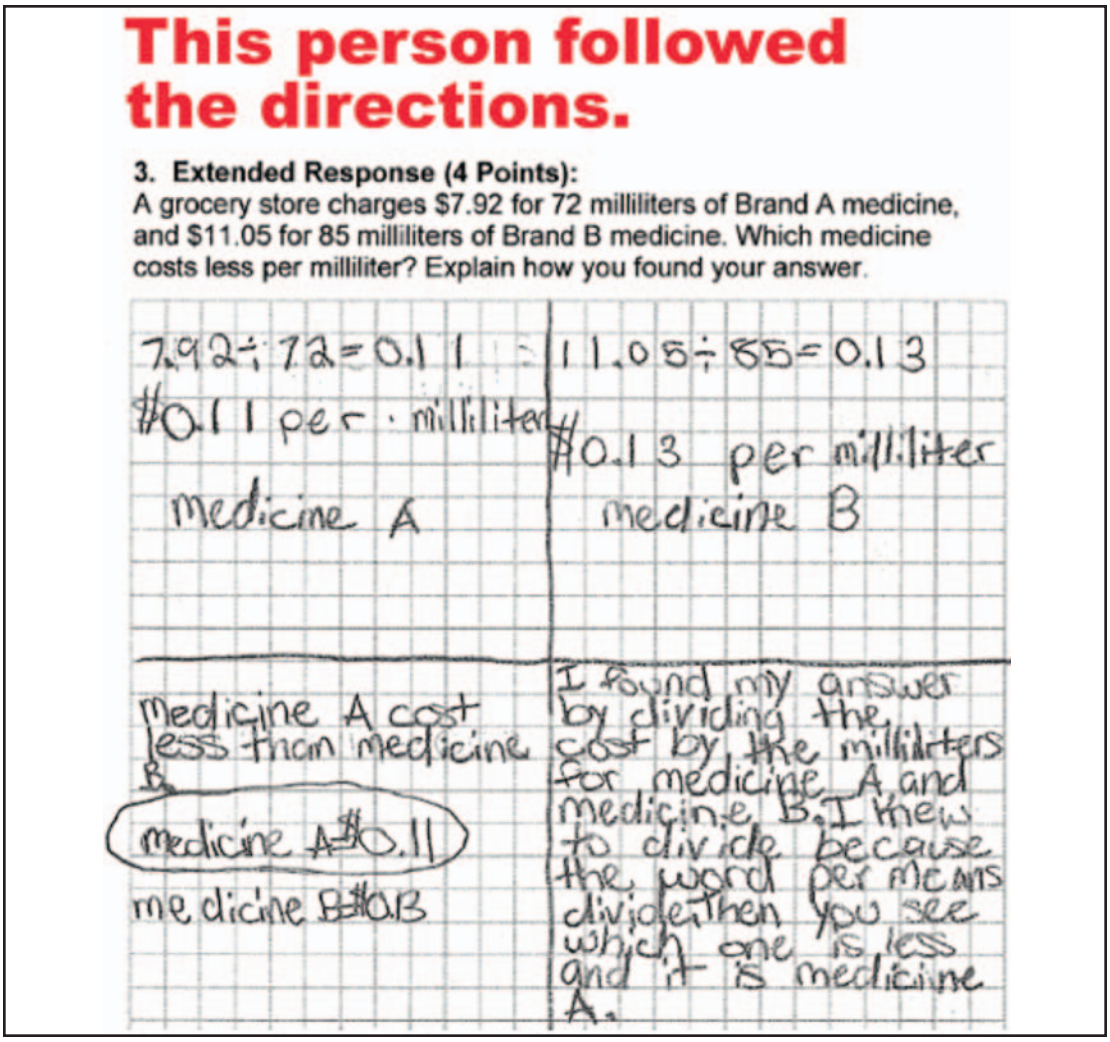


**Fig 2** Correct student response

accomplishes more than simply helping the lowest students. After all, a rising tide lifts all boats. The struggling students learn from examples of high-quality, well-written responses. The more advanced students are driven to out-do each other in hopes of seeing their responses as the exemplars. Meanwhile, the average students gain a sense of where they stand compared to their peers, and they begin to understand what it takes to improve their work.

Once students receive their graded assessments, they begin the process of fixing their mistakes. In lieu of their normal homework assignment, students complete Test Correction Sheets, which they are now capable of completing, since they have seen flawless examples.

The test correction sheets have 5 rows, one for each of the most commonly missed questions. Within the rows, students are prompted to select a reason why they missed the question. For instance, they may need to read more carefully, check their work, or mark important parts of the question. Students also compose a correct response and state what they learned from their errors and revisions.

If students receive full credit for a question, they are excused from responding. Instead, they are encouraged to help their classmates. We use the "three before me" rule for test corrections. Students must ask three of their peers for assistance before they

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Name _____ Class _____

Parent Signature Requested _____

Math Test Correction Sheet

| I did not receive full credit on question # (MC=multiple choice, WR=written response) | Reason I missed this question (wrong operation was used, misread, copying error, incomplete response, missing label, etc.) | Here is the work and the steps that I should have used in order to solve the problem: | What I learned from my mistake. (use a calculator, go slowly, mark important words in the problem, include a label, answer all parts of the question) |
|---|---|---|---|
| #3WR | | | |

**Fig 3** Sample Test Correction Sheet

ask me. This fosters authentic conversation among students, and it allows students to more quickly receive the help they need.

I continue to display the exemplary responses on the Promethean board, so students can use them as references as they craft their improved responses. Students are required to get their test correction sheets signed by a parent, and the activity counts as a grade.

By integrating technology and "math talk," I am able to improve my students' mathematical understanding and their ability to answer written response questions in a relatively quick and enjoyable manner. I know that I have done my best to address the most glaring gaps in understanding, and I have conveyed the notion that a test grade doesn't mark the end of the learning process.

As teachers, we expect our students to always be improving. These post-test procedures give students the opportunity to do so even after the assessment has ended.

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